

Guido Maria Serra

SITE RELIABILITY & SECURITY ENGINEER · KUBERNETES & IDENTITY MANAGEMENT SPECIALIST

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Profile GNU/Linux system professional with **30 years of experience**. Mediator, coach, and infrastructure architect during organizational restructuring. Early adopter of Cloud Native (since 2016) and Bitcoin (ASIC mining since 2013). Self-hosted LLM inference on a dual Titan RTX rig since 2020. Fan of Kubernetes, Traefik (contributor), ArgoCD, and SealedSecrets.

Core Competencies

Cloud Native	Kubernetes, ArgoCD, Traefik, SealedSecrets, Cilium, Terraform, OpenStack
Security & Identity	Keycloak, OIDC, LDAP/Kerberos, Active Directory, Vault, WAF (Cloudflare/Fastly), SIEM (ELK)
Observability	ELK, Prometheus, Grafana, OpenTelemetry, Cilium/Hubble, Datadog, NewRelic, CI/CD (GitLab/Jenkins)
Blockchain & Local AI	BTC transaction-graph risk analysis, stablecoin implementation (BSV), airgapped LLM inference

Professional Experience

CONTRACTOR – SECURITY & INFRASTRUCTURE ENGINEERING (2018 – PRESENT)

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Berlin, Germany / Predore, Italy

CONTRACTOR

- **DFND Security** – WAF/Edge Security (Fastly Signal Sciences); DDoS protection; DMZ hardening.
- **Forward Earth** – ISO 27001 certification; Vanta Auditor training; compliance automation.
- **3T Labs** – TeamCity & Terraform (GCP) for CI/CD pipelines; 2 consecutive contracts over 1.5 years, re-engaged by request.
- **FinTech Stealth (UAE)** – Stablecoin on BSV: first implemented in Python, then re-implemented in Node.js; load testing and reverse engineering.
- **Octostar** – GPU-backed Kubernetes clusters for ML training/inference; ClickHouse/MinIO data platform; delivered a fully airgapped solution running on local LLM models.
- **Clovrlabs** – Cloud Architect, Blockchain Reputation unicorn (Barcelona)
 - Assessed source-of-funds risk across the entire public BTC transaction graph on a 5-node Redis cluster, after evaluating several graph databases.
 - Provided cloud design best practices; designed a clean, maintainable AWS EKS (Kubernetes) setup.
 - Executed run-time code profiling, load and performance testing; evaluated on-premises sizing.
 - Used Cilium for network policies and security.
 - Mentored 5-person security ops team.
- **Prima Assicurazioni**
 - Coached 12-engineer SRE team on blameless culture and incident response.
- **Max Planck Institute**
 - Hybrid OpenStack/Kubernetes; 1.5PB storage (MinIO).
 - Federated IAM (LDAP/SAML/OAuth2).
- **Mobivia / ATU** – DevOps; 4-year engagement (rolling 3-month contracts, 16 consecutive renewals)
 - Unwound an organically grown on-premise Kubernetes setup; CDN/DNS/network SME.
 - IAM: Keycloak (OIDC) + Active Directory (LDAP/Kerberos) for Kubernetes; SPNEGO tuning on Nginx Ingress.
 - Observability: Stabilized ELK stack with retention policies; coached users; identified heavy log producers.
 - Network & Security: DNS restructuring (external records, internal/VPN zones); DDoS protection (Cloudflare + DataDome); DMZ hardening.
 - Infrastructure: Traefik Ingress Controller migration; Cloudflare CDN optimization.
- **WeShare / Volkswagen Group** – Initially brought in as a one-man-rescue-mission-team, evolved into DevOps guild coordination with C-Level; microservices on GCP/Azure.
- **SiWeGO** – Start-up CTO (Fractional, on best effort, Nov 2017 – May 2019): Low-OPEX operations; algorithmic design of graph overlaps; suppliers management.
- **HelloFresh** – SecOps (2-week emergency → multi-year engagement):
 - Stabilized SIEM solution (ELK + S3 ingestion) during emergency.
 - Library vulnerability scanning rollout; Jira integration.
 - Controlled ELK costs and sizing; hired and onboarded full FTE team.
- **SkyCharge** – Extended Debian-based ANSI C codebase (ARM/BeagleBoard cross-compilation).
- **Bella & Bona** – Pre-acquisition architecture audit for investor due diligence.

SENIOR INFRASTRUCTURE ENGINEER (APRIL 2008 – AUGUST 2018)

Multiple Companies

Berlin / Düsseldorf, Germany

FULL-TIME EMPLOYEE

- **OLX Group** – Senior Performance Engineer [Q3 2016 – Q2 2018]
 - CDN/SSL/DNS vendor selection and internal coaching across 4 locations (AR, PT, DE, IN).
 - Load & performance testing and architectural performance design review.
 - Managed **NewRelic (\$2M)**, **Akamai (\$4M)**, and **AWS (\$24M)** contracts; saved **\$300K/year** on Kubernetes monitoring.

- **Sony PlayStation (Gaikai → PlayStation Now)** – Site Reliability Engineer [Q3 2013 – Q2 2016]
 - Operated **55k hosts across 12 DCs** for global game streaming; on-call duty across the Atlantic.
 - Tool design and coding in Python to administer the infrastructure.
 - Designed NTP infrastructure for low-latency gaming; maintained Gentoo packages for KVM/Ganeti.
 - Redesigned OpenNMS fallback monitoring; built US-EU team documentation solution.
 - Hadoop subject matter expert; architected Ceph storage.
 - Load-tested NFS storage (**40 MBps/client, 46 Gbps egress/node**); flagged IRQ load-balancing need.
 - Defined a Domain-Specific Language (DSL) via the textX library for graphite-api, enabling Grafana adoption.
 - PXE-booted Tokyo and London datacenters; debugged DHCP (2 lease servers); resolved MTU issues on VPN tunnels.
- **Rocket Internet** – Sr. Software Engineer / Chief Troubleshooter [Q4 2012 – Q4 2013]
 - Tackled issues affecting production sites globally (startup/ventures incubator); round-the-clock with SE Asia / LatAm ventures.
 - Capacity testing, SQL profiling & tuning, JVM profiling & tuning, data mining, network packet debugging.
 - Developed on PHP Zend Framework 2, MySQL, MongoDB.
 - Designed and implemented Hadoop cluster for big data analytics.
 - Developed SqlHBase (pypi.org/project/SqlHBase) while studying Theoretical CS at Politecnico di Milano (2013–2014).
 - Patched major PHP-coded data structure (product categories) – adjacency tree in pure SQL with stored procedures.
 - Traced TLS negotiations (version mismatch) with Wireshark between proprietary software and F5 load balancers.
- **txtr / 3M** – Head Site Reliability, Release Management [Q3 2011 – Q3 2012]
 - Responsible for overall site reliability; metadata content ingestion (ONIX streams, AdobeDRM, Glassfish/Oracle).
 - Introduced JMX-based instrumented metrics; conducted performance tests via remote PoPs.
 - Designed and implemented a Ruby/BDD automated testing solution.
 - Java heap stack, networking, and infrastructure root cause analysis.
- **ProfitBricks / IONOS** – Senior System Administrator / Deputy Team Lead [Q2 2011]
 - Operations' Deputy Team Lead for a KVM-based cloud computing service.
 - Technologies: Nagios, Puppet, Debian LiveCD, GlusterFS, Python, Bcfg2, FAI, tftpd/bootp, Bacula.
- **Gate5 / Nokia / HERE Technologies** – Senior System Administrator [Q3 2010 – Q2 2011]
 - Operations and R&D Support for OVI Maps (maps.nokia.com).
 - Acted as DevOps: analyzed the build pipeline of all components to address inconsistencies/miscommunications.
 - Implemented continuous integration environments (Puppet, CentOS on HP Proliant servers).
 - Delivered core components of maps and device R&D for emerging markets (India/China).
 - Strategic Yahoo/OVI Maps integration; testing and capacity planning across multiple datacenters.
 - Introduced Cucumber-Nagios (repackaged Ruby stack under CentOS) for automation QA and production monitoring.
- **Vodafone Group** – QA Tester, Düsseldorf [Q1 2008 – Q2 2010] (2.5-year engagement, rolling 3-month contracts, 10 consecutive renewals)
 - Led load & performance testing activities.
 - Identified major architectural design flaws in Java Enterprise Applications.

SOLUTION ARCHITECT / SYSOPS / PROGRAMMER (1996 – APRIL 2008)

mauin.com / purotesto.it / guidoserra.it

Italy

FREELANCE/CONTRACTOR

- **Embedded Linux R&D** – Stager for Alessandro Rubini (GNUDD); R&D with Marco Cavallini (KOAN); LEAF porting to compact flash; OpenWRT.
- **Giovanni Franza / SICEF / MGE** – Assistant for ECDL IT-Administrator / CompTIA+ courses.
- **NSEC** – Enterprise security; open source pre-sales/R&D; Cisco PIX, CyberARK, Nessus, SE-Linux.
- **BPU Banca** – Financial software QA (ClearCASE, Oracle, PL/SQL).
- **H3G Italy** – Security Analyst (Active Directory, VPN concentrators, PGP/GPG, Nessus).
- **Politecnico di Milano** – Lecturer (C socket programming); ICTF World Champion 2005.
- **Open Source** – GOSa² (LDAP schemas), Seagull (SQLite), GNU/TLA (FTP auth), wicd (Debian Maintainer, ported to Python3).
- **Custom Solutions** – Pandora (LDAP/Postfix/Asterisk/DRBD), Biblioteca Sormani (full-text indexing), Tempus (SMS notifications).
- **Volunteering** – IT Manager for Ingegneria Senza Frontiere; Emergency/PeaceReporter; Linux Day 2003/2004.

Education & Certifications

Politecnico di Milano

COMPUTER AND SOFTWARE ENGINEERING (DROPOUT)

2000–2008, 2013–2014, resumed 2025

- Resumed studies in 2025; 4 exams remaining; target completion: end of summer 2026

Certifications: Red Hat Ceph Storage (CEPH125), 2016 (NYC, J.C. Lopez) | ISO 27001 / Vanta Auditor, 2025

Maritime: Marine Radio Short Range Certificate (GMDSS S.R.C.) – RYA, 2021 | World Sailing Offshore Special Regulations, 2021

Languages: Italian (Native), English (Fluent), German (Working)

Open Source: FSFE Fellow; Founder Politecnico Open *nix Labs (POuL); wicd Debian Maintainer (ported to Python3); Traefik Contributor

Interests: Offshore Sailing (Centro Velico Caprera, Les Glénans), Skiing, Cooking, Trekking, Alpine Guide (CAI Bergamo)